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GT64C-5393-JWH
April 24, 2003

BOEING

Mr. Patrick Quinn.
Hazardous Waste Program
Missouri Department of Natural Resources
1738 East Elm Street
Jefferson City, Missouri 65101

RE: Comments on the Draft Environmental Field Investigation Report for Boeing Tract 1 South Property, January 10, 2003, Hazelwood, Missouri; Permit# MOD000818963.

Encl: Tables 3-2, 3-3, 5-1 through 5-20
Figures 1 through 13
Statement of Work, Supplemental Investigation to the Environmental Field Investigation for Boeing Tract I South Property

Dear Mr. Quinn:

The Boeing Company has prepared the following responses to your letter dated March 24, 2003, which contained comments to the above referenced report.

General Comments

1. **Development of a conceptual model for the Tract 1 North and Tract 1 South combined (Site).** In order to develop a better understanding of the sites combined, the following figures have been prepared:
   - All soil borings and groundwater monitoring wells located on both Tract 1 North and Tract 1 South are shown in Figure 1.
   - Groundwater isopleth maps displaying the groundwater gradient in the shallow and deep zones have been prepared for the fourth quarter of 2002 and first quarter of 2003 utilizing monitoring wells located on both Tract 1 North and Tract 1 South (Figures 1 through 5);
   - Figures 6 and 7 display constituents of concern (COC) detected in soil and groundwater at concentrations above investigative threshold levels (ITL) for the combined site. COCs presented for soil and groundwater are: chlorinated compounds (tetrachloroethene, trichloroethene, and related breakdown components); benzene; total petroleum hydrocarbons (TPH); and polychlorinated biphenyls (PCBs). The soil figure (Figure 6) also presents metals detected above ITLs. Because of issues relating to the representativness of metal detections in groundwater (per Comment #3), metals are not included on the groundwater figure (Figure 7).
   - Figures 8, 9, 10, and 11 are a larger scale maps showing just UST Sites # 2 and #4 on Tract 1 South and present benzene and TPH concentrations detected in soil and groundwater.

2. **Total petroleum hydrocarbon (TPH) analysis.** The tables summarizing laboratory data included in the final Environmental Field Investigation Report for Boeing Tract 1 South have been modified to include a Total TPH line that sums the low fraction (OA1) and high fraction (OA2 or DRO) together and compares this number to the TPH ITL. There are no changes to the number of soil or groundwater samples that exceeded the TPH ITL from those reported in the draft report (i.e. the data tables in the draft report compared the sum of the TPH fractions to the TPH ITL).

   TPH analysis was conducted at specific areas of the Site based on the usage of petroleum products at that area. These petroleum products were jet fuel, diesel fuel, and fuel oil and not motor oil or #6 fuel oil. However, future laboratory analysis for TPH at the Site will utilize methods OA1 and OA2.

   Federal guidance for sampling along pipelines (such as found at Subpart M- Pipeline Sampling (40 CFR 761.240-761.257) will be utilized as appropriate during characterization in the area of the jet fuel hydrant system.

3. **ITLs for detected constituents.** ITLs for beryllium, copper, manganese, nickel, thallium, zinc, and 1,4-dioxane have been developed and are included in revised ITL tables.

   Groundwater samples collected during field investigations at the Site (Fabrication Operation Facility a/k/a GKN and Tract 1 South) have included utilization of temporary piezometers. The installation methodology for piezometers consisting of open boreholes with no sand pack to filter out sediment results in groundwater samples that are typically turbid with sediment. In an effort to reduce the effect of the sediment to the metal analysis, MACTEC typically decanted the collected groundwater into a second set of sample containers after allowing the sediment to settle, however, this decanting does not remove all sediment. It should be noted that the EPA laboratory method for metal analysis requires the laboratory analyst to agitate the sample container immediately prior to extracting the sample, ensuring that any sediment in the sample jar would go into suspension to become part of the extract being analyzed. Groundwater metal data will be further evaluated as part of the ongoing risk assessment.

Specific Comments

1. **SWMU #17.** The shallow soil and groundwater at the SWMU 17 area has been characterized and alternatives for source removal are being evaluated. Remedial alternatives being evaluated include: soil excavation and disposal; land farming; enhanced bioattenuation using Hydrogen Release Compound (HRC); in-situ thermal desorption; and ex-situ thermal desorption. Following completion of the interim remedial action, one sample of the groundwater will be conducted at this area to characterize the vertical extent of impact as suggested by MDNR.

2. **UST Site #2, Southeast of Building 48.** The UST located at the southeast corner of Building 48 contained fuel oil used to power an emergency generator. In 1986 an underground fuel line containing JP-4 broke in the vicinity of this UST site. This fuel line is part of a hydrant system that runs from underground storage tanks at the west side of Building 41 to fuel pits on the south side of Buildings 45 and 42 (UST Site #4). Figure 12 displays the location of the fuel hydrant line system. The hydrant system was integrity tested in 1999 and the found to be tight.

Based on the results of the field investigation, the impacts observed at these sites are the result of the documented release from the former hydrant fuel line system. These two sites will be combined and investigated as one site, the Jet Fuel Hydrant Line Site.

JP-4 is a jet fuel that was used to power Air Force and Navy aircraft. JP-4 as a fuel was replaced by JP-8 in a phased process beginning in 1991 and ending in 1996. JP-4 is a 50/50 heavy naptha/kerosene blend containing 20 to 25 percent aromatics and 0.5 percent benzene (by weight). Automotive gasoline contains around 1.9 percent benzene (API, 1985). JP-8 is refined kerosene containing 5 to 25 percent aromatics and 0.0028 to 0.8 percent benzene by weight (Kampbell, 2000). Lead and methyl tertiary butyl ether (MTBE) are not listed as approved additives in military spec jet fuels JP-4 or JP-8 (Military Spec MIL-T-5624P) and are, therefore, not expected to be found in jet fuel or in the subsurface impacted by a jet fuel release. MTBE was included in the OA-1 analysis of soil and groundwater samples collected in the two areas (UST Sites #2 and #4). The only detection was in a groundwater sample from B48S2 at 9.9 micrograms per liter. All other soil and groundwater samples analyzed by Methods OA-1 during the Environmental Field Investigation did not contain detectable concentrations of MTBE.

Impact to soil and groundwater above ITLs down gradient of the hydrant line has been delineated as shown on Figures 8 through 11 (Borings B48S6, B48S9, B48S10, B42S1). However, to further refine the extent of impact down gradient and the extent of soil impact up gradient, a total of four shallow soil borings/temporary piezometers will be installed as indicated on Figure 12. Additionally, Monitoring Wells MW-A13 will be sampled. (Note that MW-A13 was sampled during quarterly groundwater sampling at the Site in March 2003).

3. **UST Site #3, Buildings 45L, C, D, E.** Detection limits for soil and groundwater samples analyzed from UST Site #3 have been included on the revised Section 5 tables. The detection limits for all constituents can be found on the laboratory reports included in Appendix C of the report.

   On March 21, 2003 Boeing Environmental and Hazardous Material Services provided ramp escort to a MACTEC employee to access monitoring wells located near Hush House #2. Water levels in these wells were being monitored for preparation of the Site-wide groundwater contour map. Two wells, MW-A1 and MW-3A were found to contain free phase product on top of the groundwater surface. These wells had last been monitored in 2002. At that time no free product was observed in the wells and the TPH level was measured at 31.5 and 23 milligrams per liter (mg/L) respectively. Based on the analytical results and the results of previous sampling, a no further action letter was received from the MDNR UST Section in March 2002.

   Based on this finding, bailing of the free product on a twice-monthly schedule started on these two wells on April 9, 2003. Note that soil and groundwater samples collected from boring B45CS2, located east (down gradient) of these two wells, did not contain detectable concentrations of BTEX or TPH constituents. To further investigate this area, existing monitoring wells, MW-A3, MW-A17, and MW-A21 will be sampled (Figure 12).

4. **UST Site #4, South of Building 45.** As discussed in the response to the UST Site #2 comment, the primary source of release at this area is JP-4 from the documented release traveling along the hydrant lines and/or the UST at Fuel Pit #3 which was formerly located within the fuel pits and functioned to capture excess jet fuel from the fueling operation.

5. **Building 40, Former Drum Storage.** The detection limits for the soil and groundwater samples analyzed from this area have been included on the revised tables. Based on the analytical results, no further investigation is required at this area.

6/7. **Building 41, Tank Farm and Paint Solvent Storage.** Based on the results of the field investigation, there appear to be three sources of COC at this area. Boring B41N1, located north of Building 41 was located adjacent to the unload station used to fill the Hydrant Line System USTs with jet fuel. Benzene was the main COC detected in this boring, just as it was in the Jet Fuel Hydrant Line Site located south of Building 48, and appears to be related to releases of JP-4 at the unload area. Because of utilities in the area additional borings were not conducted during the field investigation conducted in November 2002. However, borings B41S4, B2N2, and monitoring well MW-18 delineate the extent of soil and groundwater impact. The tank farm will be removed as part of the property transfer, therefore, additional investigation/remedial action of the benzene impact around B48N1 will be conducted during the removal of the tank systems.

Boring B41S3D, located south of Building 41 was located adjacent to an oil water separator inlet. TPH (diesel #2 range), benzene, benzene derivatives, toluene, and xylenes were the main COCs detected in this soil sample, although all detections were below ITLs. Per the work plan, TPH low fraction (OA1) was not analyzed, however, the low volatile organic compound detections indicate that low fraction TPH, when combined with the high fraction TPH concentration detected (24,000 micrograms per kilogram (ug/kg)), would not exceed the ITL of 200,000 ug/kg. The oil/water separator system will be removed along with the tank farm system, and therefore, additional investigation is not required at this time.

PCE was detected in groundwater from the deep boring B41MWS3D and from monitoring well MW-5. Chlorinated breakdown compounds such as cis-1, 2-dichloroethene and vinyl chloride were found in MW-5. Vinyl chloride was detected in the sample from B2I1, located in the Paint Accumulation Area just east of the Building 41 area. Based on the results from the two borings in the Paint Accumulation Area, this area will be considered as part of the Building 41 Area. Drum storage south and east of Building41 appear to be the source of the PCE detected in these two borings. The detection of only PCE in the deep boring with no chlorinated breakdown product being detected is indicative of the boring being located near the source.

8. **Industrial Sewer Line.** A known break of the industrial sewer was discovered approximately 7 years ago at the point the sewer made a 90-degree turn to the north. This point was near the locations of borings B2N3 and B2N4 (Figure 13). Based on the results detected in boring B2N2 to the west and B2N5 to the east (which were below ITL for all constituents), the site is delineated.

9. **UST Area between Buildings 4 and 5.** The detection limits for the soil and groundwater samples analyzed from this area have been included on the revised tables. Based on the analytical results, no further investigation is required at this area.

10. **Shooting Range Bunkers.** Metals were not detected in soils at concentrations above ITLS. Per Comment #3, evaluation of metals in groundwater will follow the development of the Site risk assessment.

11. **Coldwater Creek.** Groundwater monitoring wells have been installed to the east of Tract 1 North during investigation of the St. Louis Airport Site (SLAPS) under the Formerly Utilized Sites Remediation Action Program. Reports generated for the U.S. Army Corps of Engineers indicate

that shallow groundwater flows towards Coldwater Creek (north or west). Additional data has been requested from the Corps of Engineers and will be summarized when available.

During periods of heavy rain, high flow in the Coldwater Creek tunnel would result in water backing up through the Boeing storm water outfall into Building 2. To prevent this, a pump station was constructed east of Building 2 in 2000. High flow in the storm water tunnel triggers the closing of a gate at the outfall and diversion of storm water from Building 2 to the pump station. When the water level rises in the pump station wet well it is automatically pumped directly to the storm water tunnel. When the water level recedes in the tunnel all systems go back to normal.

Please do not hesitate to call me if you have any questions.

Sincerely,

Joseph Haake

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Table 3-2
Investigation Threshold Levels (ITLs) for Soils
2002 Environmental Field Investigation, Boeing Tract 1 South

Constituent	BOEING Investigation Threshold Level (ITL) for Soil (1)	Missouri CALM Residential Scenario A (2)	Missouri CALM Industrial Scenario C (3)	Missouri CALM Leaching to Groundwater (4)	EPA Region IX Preliminary Remediation Goals (5)
VOLATILE ORGANIC COMPOUNDS (VOCs) (µg/kg)					
Acetone	**1,600,000**	2,700,000	8,700,000	--	1,600,000
Benzene	**50**	6,000	13,000	50	650
Bromodichloromethane	**700**	11,000	41,000	700	1,000
n-Butylbenzene	**140,000**	--	--	--	140,000
sec-Butylbenzene	**110,000**	--	--	--	110,000
tert-Butylbenzene	**130,000**	--	--	--	130,000
Dibromochloromethane	**800**	20,000	77,000	800	1,100
2-Butanone (MEK)	**7,300,000**	7,400,000	16,000,000	--	7,300,000
Carbon disulfide	**360,000**	630,000	721,000	--	360,000
Carbon tetrachloride	**130**	200	500	130	240
Chloroethane	**3,000**	--	--	--	3,000
Chloroform	**240**	800	1,000	600	240
1,1-Dichloroethane	**590,000**	--	--	--	590,000
1,1-Dichloroethene	**54**	400	1,000	90	54
1,2-Dichloropropane	**40**	10,000	25,000	40	350
1,4-Dioxane	**10**	150,000	590,000	10	44,000
Isopropyl benzene	**160,000**	210,000	210,000	--	160,000
p-Isopropyltoluene	**67**	8,760,000	8,760,000	67	--
cis-1,2-Dichloroethene	**500**	1,200,000	1,200,000	500	43,000
trans-1,2-Dichloroethene	**1,000**	2,900,000	3,100,000	1,000	63,000
Ethylbenzene	**32,000**	400,000	400,000	32,000	230,000
2-Hexanone	--	--	--	--	--
4-Methyl 2-pentanone (MIBK)	**790,000**	1,000,000	2,300,000	--	790,000
Methyl Tertiary-Butyl Ether (MTBE)	**67**	8,760,000	8,760,000	67	--
Methylene chloride	**20**	51,000	150,000	20	8,900
Napthalene	**24,000**	120,000	240,000	24,000	56,000
n-Propylbenzene	**28,000**	28,000	91,000	--	140,000
Tetrachloroethene	**100**	40,000	120,000	100	5,700
Toluene	**3,700**	650,000	650,000	3,700	520,000
1,1,1-Trichloroethane	**3,500**	1,200,000	1,200,000	3,500	630,000
1,1,2-Trichloroethane	**40**	5,000	14,000	40	840
1,2,4-Trimethylbenzene	**52,000**	100,000	180,000	--	52,000
1,3,5-Trimethylbenzene	**21,000**	42,000	76,000	--	21,000
Trichloroethene	**100**	40,000	89,000	100	2,800
Trichlorofluoromethane	**390,000**	770,000	1,400,000	--	390,000
Vinyl Chloride	**20**	300	600	20	150
Xylenes, Total	**16,000**	418,000	418,000	16,000	210,000
Total Petroleum Hydrocarbons (TPH)	**200,000**	200,000	1,000,000	--	--
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) (µg/kg)					
Acenaphthene	**1,000,000**	1,700,000	5,400,000	1,000,000	3,700,000
Acenaphthylene	**2,300 (6)**	--	--	--	--
Anthracene	**8,500,000**	8,500,000	27,000,000	33,000,000	22,000,000
Benzo(a)anthracene	**200**	1,000	4,000	200	620
Benzo(b)fluoranthene	**600**	900	4,000	600	620
Benzo(a)pyrene	**62**	200	600	24,000	62
Chrysene	**200**	36,000	140,000	200	62,000
Fluoranthene	**1,600,000**	1,600,000	5.2E+06	3,800,000	2,300,000
Fluorene	**1,100,000**	1,100,000	3.6E+06	2,100,000	2,600,000
POLYCHLORINATED BIPHENYLS (PCBs) (µg/kg)					
PCBs	**220**	600	2,500	18,000	220
METALS/CYANIDE (mg/kg)					
Arsenic	**11**	11	14	--	22
Barium	**1,700**	14,000	51,000	1,700	5,400
Beryllium	**0.05**	0.05	0.20	130	150
Cadmium	**11**	110	380	11	37
Chromium	**38**	2,100	4,500	38	210
Copper	**1,100**	1,100	4,700	--	2,900
Lead	**260**	260	660	--	400
Manganese	**1,800**	3,700	11,000	--	1,800
Mercury	**0.6**	0.6	1	3.2	23
Nickel	**170**	4,800	17,000	170	1,600
Selenium	**4.3**	300	970	4.3	390
Silver	**26**	140	450	26	390
Thallium	**2.80**	17	61	2.80	5.20
Zinc	**3,000**	38,000	130,000	3,000	23,000

Constituents in bold were added to table based on results of Environmental Field Investigation of Tract 1 South.
-- Applicable value not available, µg/kg = micrograms per kilogram, mg/kg = milligrams per kilogram

Footnotes:

1 Investigation Threshold Levels (ITLs) for soils were derived from the most conservative of Cleanup Levels for Missouri (September 2001) or USEPA Region IX Preliminary Remediation Goal (PRG) values.
2 Cleanup Levels for Missouri, September 2001. Value represents Residential (Scenario "A") exposure pathway.
3 Cleanup Levels for Missouri, September 2001. Value represents Industrial (Scenario "C") exposure pathway.
4 Cleanup Levels for Missouri, September 2001. Value that is protective of "leaching to groundwater."
5 USEPA Region IX Preliminary Remediation Goals (PRGs), November 1, 2000. Value represents Residential exposure pathway.
6 Alternative value acquired by using residential value for pyrene as a comparable surrogate.

Table 3-3
Investigation Threshold Levels (ITLs) for Groundwater
2002 Environmental Field Investigation, Boeing Tract 1 South

Constituent	BOEING Investigation Threshold Level (ITL) for Groundwater (1)	Missouri CALM Groundwater Target Conc (GTARC) (2)	USEPA Drinking Water Standards (MCLs) (3)
VOLATILE ORGANIC COMPOUNDS (VOCs) (µg/L)			
Acetone	**4,000**	--	4,000
Benzene	**5**	5	5
Bromodichloromethane	**80**	80	80
n-Butylbenzene	**61 (4)**	--	--
sec-Butylbenzene	**61 (4)**	--	--
tert-Butylbenzene	**61 (4)**	--	--
Dibromochloromethane	**80**	80	80
2-Butanone (MEK)	**1,900 (4)**	--	--
Carbon disulfide	**1,000 (4)**	--	--
Carbon tetrachloride	**5**	5	5
Chloroethane	**4.6 (4)**	--	--
Chloroform	**80**	80	80
1,1-Dichloroethane	**4,000**	4,000	4,000
1,1-Dichloroethene	**7**	7	7
1,2-Dichloropropane	**5**	5	5
cis-1,2-Dichloroethene	**70**	70	--
trans-1,2-Dichloroethene	**100**	100	--
1,4-Dioxane	**3**	3	--
Ethylbenzene	**700**	700	700
2-Hexanone	**--**	--	--
Isopropyl benzene	**--**	--	--
p-Isopropyltoluene	**--**	--	--
4-Methyl 2-pentanone (MIBK)	**160 (4)**	--	--
Methyl Tertiary-Butyl Ether (MTBE)	**20**	20	--
Methylene chloride	**5**	5	5
Napthalene	**100**	100	--
n-Propylbenzene	**61 (4)**	--	--
Tetrachloroethene	**5**	5	5
Toluene	**150**	150	1,000
1,1,1-Trichloroethane	**200**	200	200
1,1,2-Trichloroethane	**5**	5	5
1,2,4-Trimethylbenzene	**12 (4)**	--	--
1,3,5-Trimethylbenzene	**12 (4)**	--	--
Trichloroethene	**5**	5	5
Trichlorofluoromethane	**1,300 (4)**	--	--
Vinyl chloride	**2**	2	2
Xylenes, Total	**320**	320	10,000
Total Petroleum Hydrocarbons (TPH)	**10,000**	10,000	--
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) (µg/L)			
Acenaphthene	**1,200**	1,200	--
Acenaphthylene	--	--	--
Anthracene	**9,600**	9,600	--
Benzo(a)anthracene	**0.0044**	0.0044	80
Benzo(b)fluoranthene	**0.0044**	0.0044	--
Benzo(a)pyrene	**0.2000**	0.2000	0.2000
Chrysene	**0.0044**	0.0044	10
Fluoranthene	**300**	300	--
Fluorene	**1,300**	1,300	--
POLYCHLORINATED BIPHENYLS (PCBs) (µg/L)			
PCBs	**0.5**	0.5	0.5
METALS (µg/L)			
Arsenic	**50**	50	5
Barium	**2,000**	2,000	2,000
Beryllium	**4**	4	4
Cadmium	**5**	5	5
Chromium	**100**	100	100
Copper	**1,300**	1,300	1,300
Lead	**15**	15	15
Manganese	**50**	50	--
Mercury	**2**	2	2
Nickel	**100**	100	--
Selenium	**50**	50	50
Silver	**100**	100	100
Thallium	**2**	2	2
Zinc	**2,000**	2,000	--

Constituents in bold were added to table based on results of Environmental Field Investigation of Tract 1 South.
-- Applicable value not available, µg/L = micrograms per liter

Footnotes:

1 Investigation Threshold Levels (ITLs) for groundwater were derived from Cleanup Levels for Missouri (CALM). For instances where the CALM values were unavailable, Maximum Contaminent Levels (MCLs) were used. If CALM and MCL values were unavailable, Region IX Preliminary Remediation Goals (PRG) values for tap water were used as referenced below.
2 Cleanup Levels for Missouri, September 2001. Value represents groundwater target concentration value.
3 Maximum Contaminant Levels, Summer 2000, non-zero MCLG, MCL, or HBL.
4 Alternative value acquired from EPA Region IX PRGs, November 1, 2000.

Table 5-1
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, SWMU # 17

CONSTITUENT	UNITS	B48I1-7 7 ft bgs 11/11/02	B48I2-6 6 ft bgs 11/11/02	B48N1-9 9 ft bgs 11/11/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021					
	ug/kg	<5	<5	<5	
TPH Method OA-2					
Diesel #1	ug/kg	<5,000	<5,000	<5,000	--
Diesel #2	ug/kg	<5,000	<5,000	<5,000	--
Kerosene	ug/kg	<5,000	<5,000	<5,000	--
Motor Oil (C16-C33)	ug/kg	<5,000	<5,000	<5,000	--
Stoddard Solvent	ug/kg	<5,000	<5,000	<5,000	--
Total TPH (High Range Fraction)	ug/kg	<5,000	<5,000	<5,000	10,000 (2)

Notes:

< - Constituent was not detected above noted quantitation limit.

ft bgs - feet below ground surface

-- - ITL has not been determined for this constituent.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-2
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, SWMU # 17

CONSTITUENT	UNITS	B48I1W 11/11/02	B48I2W 11/11/02	B48N1W 11/11/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021					
	ug/l	<5	<5	<5	
TPH Method OA-2					
Diesel #1	ug/l	<1,000	<1,000	<1,000	--
Diesel #2	ug/l	<1,000	<1,000	<1,000	--
Kerosene	ug/l	<1,000	<1,000	<1,000	--
Motor Oil (C16-C33)	ug/l	<1,000	<1,000	<1,000	--
Stoddard Solvent	ug/l	<1,000	<1,000	<1,000	--
Total TPH (High Range Fraction)	ug/l	<1,000	<1,000	<1,000	10,000 (2)

Notes:

< - Constituent was not detected above noted quantitation limit.

ft bgs - feet below ground surface

-- - ITL has not been determined for this constituent.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-3
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tact 1 South, UST Site #3

CONSTITUENT	UNITS	B45CS1D - ft bgs 11/15/02	B45CS2-6 6 ft bgs 11/14/02	B45CS3D-6 6 ft bgs 11/20/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
TPH Method OA-1					
Benzene	ug/kg	NS	<50	<2.5	50
Ethylbenzene	ug/kg	NS	<50	<2.5	32,000
Methyl Tert-Butyl Ether	ug/kg	NS	<50	<25	67
Toluene	ug/kg	NS	<50	<25	3,700
Xylenes, Total	ug/kg	NS	<50	<7.5	16,000
Gasoline (C6-C14)	ug/kg	NS	<5,000	NQ	--
TPH (GC/FID) Low Fraction	ug/kg	NS	NQ	<500	--
TPH Method OA-2					
Diesel #1	ug/kg	NS	<5,000	NQ	--
Diesel #2	ug/kg	NS	<5,000	NQ	--
Kerosene	ug/kg	NS	<5,000	NQ	--
Motor Oil (C16-C33)	ug/kg	NS	<5,000	NQ	--
Stoddard Solvent	ug/kg	NS	<5,000	NQ	--
TPH Method DRO					
TPH (GC/FID) High Fraction	ug/kg	NS	NQ	<4,000	--
Total TPH (Low & High Range Fractions)	ug/kg	NS	<5,000	<500	10,000 (2)

Notes:

< - Constituent was not detected above noted quantitation limit.

ft bgs - feet below ground surface

-- - ITL has not been determined for this constituent.

NS - Not sampled

NQ - Constituent not quantified by that method.

* - Diesel Range Organics

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-4
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tact 1 South, UST Site #3

CONSTITUENT	UNITS	B45CS1DW 11/15/02	B45CS2W 11/14/02	B45CS3DW 11/20/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
TPH Method OA-1					
Benzene	ug/l	<5	<5	<0.5	5
Ethylbenzene	ug/l	<5	<5	<0.5	700
Methyl Tert-Butyl Ether	ug/l	<5	<5	<5	20
Toluene	ug/l	<5	<5	<5	150
Xylenes, Total	ug/l	<5	<5	<1.5	320
Gasoline (C6-C14)	ug/l	<1,000	<1,000	NQ	--
TPH (GC/FID) Low Fraction	ug/l	NQ	NQ	<100	--
TPH Method OA-2					
Diesel #1	ug/l	<1,000	<1,000	NQ	--
Diesel #2	ug/l	<1,000	<1,000	NQ	--
Kerosene	ug/l	<1,000	<1,000	NQ	--
Motor Oil (C16-C33)	ug/l	<1,000	<1,000	NQ	--
Stoddard Solvent	ug/l	<1,000	<1,000	NQ	--
TPH Method DRO					
TPH (GC/FID) High Fraction	ug/l	NQ	NQ	<100	--
Total TPH (Low & High Range Fractions)	ug/l	<1,000	<1,000	<100	10,000 (2)

Notes:

< - Constituent was not detected above noted quantitation limit.

NQ - Constituent not quantified by that method.

-- - ITL has not been determined for this constituent.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-5
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, Former Drum Storage Area Adjacent to Building 40

CONSTITUENT	UNITS	B40E1-6 6 ft bgs 11/14/02	B40E2-6 6 ft bgs 11/14/02	B40S1-6 6 ft bgs 11/14/02	B40S2-6 6 ft bgs 11/14/02	B40W1-6 6 ft bgs 11/14/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021							
	ug/kg	<1	<1	<1	<1	<1	
TPH Method OA-2							
Diesel #1	ug/kg	<5,000	<5,000	<5,000	<5,000	<5,000	--
Diesel #2	ug/kg	<5,000	<5,000	<5,000	<5,000	<5,000	--
Kerosene	ug/kg	<5,000	<5,000	<5,000	<5,000	<5,000	--
Motor Oil (C16-C33)	ug/kg	<5,000	<5,000	<5,000	<5,000	<5,000	--
Stoddard Solvent	ug/kg	<5,000	<5,000	<5,000	<5,000	<5,000	--
Total TPH (High Range Fraction)	ug/kg	<5,000	<5,000	<5,000	<5,000	<5,000	10,000 (2)

Notes:

ug/kg - micrograms per kilogram

< - Constituent was not detected above noted quantitation limit.

ft bgs - feet below ground surface

-- - ITL has not been determined for this constituent.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-6
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, Former Drum Storage Area Adjacent to Building 40

CONSTITUENT	UNITS	B40E1W 11/14/02	B40E2W 11/14/02	B40S1W 11/14/02	B40S2W 11/14/02	B40W1W 11/14/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021							
Trichloroethene	ug/l	**1.1**	<1	<1	<1	<1	5
TPH Method OA-2							
Diesel #1	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	--
Diesel #2	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	--
Kerosene	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	--
Motor Oil (C16-C33)	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	--
Stoddard Solvent	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	--
Total TPH (High Range Fraction)	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	10,000 (2)

Notes:

ug/l - micrograms per liter

< - Constituent was not detected above noted quantitation limit.

-- - ITL has not been determined for this constituent.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-7
Detected Concentrations in Soil, 2002 Environmental Field Investigation Boeing Tract 1 South, UST Site #2

CONSTITUENT	UNITS	B48S1-6 6 ft bgs 11/14/02	B48S2-5 5 ft bgs 11/15/02	B48S3-10 10 ft bgs 11/15/02	B48S4D - ft bgs 11/15/02	B48S5-6 6 ft bgs 11/19/02	B48S6-6 6 ft bgs 11/19/02	B48S7-7 7 ft bgs 11/20/02	B48S8-7 7 ft bgs 11/20/02	B48S9-8 8 ft bgs 11/21/02	B48S10-7 7 ft bgs 11/21/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOC/TPH Method OA-1												
Benzene	ug/kg	**307**	<50	**98**	NS	**57**	<50	<50	**125**	<2.5	<2.5	50
Ethylbenzene	ug/kg	**227**	<50	**346**	NS	<50	<50	<50	**408**	<2.5	<2.5	32,000
Methyl Tert-Butyl Ether	ug/kg	<50	<50	<50	NS	<50	<50	<50	<50	NA	NA	67
Toluene	ug/kg	**3,000**	<50	**52**	NS	**354**	<50	**76**	**1,090**	<25	<25	3,700
Xylenes, Total	ug/kg	**829**	<50	**254**	NS	**670**	<50	**273**	**461**	<7.5	<7.5	16,000
Gasoline (C6-C14)	ug/kg	**250,000**	<5,000	**83,000**	NS	**66,000**	<5,000	**38,000**	**133,000**	NA	NA	--
TPH Method OA-2												
Diesel #1	ug/kg	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	NQ	NQ	--
Diesel #2	ug/kg	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	NQ	NQ	--
Kerosene	ug/kg	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	NQ	NQ	--
Motor Oil (C16-C33)	ug/kg	**47,000**	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	NQ	NQ	--
Stoddard Solvent	ug/kg	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	NQ	NQ	--
TPH Method DRO												
TPH (GC/FID) High Fraction	ug/kg	NQ	NQ	NQ	NS	NQ	NQ	NQ	NQ	**38,000**	**38,000**	--
Total TPH (Low & High Range Fraction)*	ug/kg	**297,000**	<5,000	**83,000**	NS	**66,000**	<5,000	**38,000**	<5,000	**38,000**	**38,000**	200,000 (2)

Notes:
ug/kg - micrograms per kilogram
< - Constituent was not detected above noted quantitation limit.
ft bgs - feet below ground surface
NQ - Constituent not quantified by that method.
NS - Not sampled
NA - Constituents were not analyzed
-- - ITL has not been determined for this constituent.
* - Samples B48S9-8 and B48S10-7 were not analyzed for TPH low range fraction.
(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.
(2) - Total TPH
Shaded values indicate constituent concentrations which exceed the ITLs.

Table 5-8
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation Boeing Tract 1 South, UST Site #2

CONSTITUENT	UNITS	B48S1W 11/14/02	B48S2W 11/15/02	B48S3W 11/14/02	B48S4W 11/15/02	B48S5W 11/19/02	B48S6W 11/19/02	B48S7W 11/20/02	B48S8W 11/20/02	B48S9W 11/21/02	B48S10W 11/21/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOC/TPH Method OA-1												
Benzene	ug/l	**569**	**921**	**14.6**	NS	**24.8**	<5	**25.7 B**	**22.2 B**	**0.61**	<0.5	5
Ethylbenzene	ug/l	<5	**24**	<5	NS	**5.3**	<5	<5	<5	<0.5	<0.5	700
Methyl Tert-Butyl Ether	ug/l	<5	**9.9**	<5	NS	<5	<5	<5	<5	NA	NA	20
Toluene	ug/l	<5	<5	**16.1**	NS	**36**	<5	**59.6**	<5	<5	<5	150
Xylenes, Total	ug/l	<5	<5	<5	NS	**17.1**	<5	**23.6**	<5	<1.5	<1.5	320
Gasoline (C6-C14)	ug/l	<1,000	**1,160**	**1,746**	NS	**301,200**	<1,000	**207,200**	<1,000	NA	NA	--
TPH Method OA-2												
Diesel #1	ug/l	<1,000	<1,000	<1,000	NS	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
Diesel #2	ug/l	<1,000	<1,000	<1,000	NS	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
Kerosene	ug/l	<1,000	<1,000	<1,000	NS	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
Motor Oil (C16-C33)	ug/l	<1,000	<1,000	<1,000	NS	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
Stoddard Solvent	ug/l	<1,000	<1,000	<1,000	NS	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
TPH Method DRO												
TPH (GC/FID) High Fraction	ug/l	NQ	NQ	NQ	NS	NQ	NQ	NQ	NQ	**1,000**	**180**	--
Total TPH (Low & High Range Fraction)*	ug/l	<1,000	**1,160**	**1,746**	NS	**301,200**	<1,000	**207,200**	<1,000	**1,000**	**180**	10,000 (2)

Notes:
ug/l - micrograms per liter
< - Constituent was not detected above noted quantitation limit.
NA - Constituents were not analyzed
NQ - Constituent not quantified by that method.
NS - Not sampled
B - Result is qualified, constituent detected in the method blank.
-- - ITL has not been determined for this constituent.
* - Samples B48S9W and B48S10W were not analyzed for TPH low range fraction.
(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.
(2) - Total TPH
Shaded values indicate constituent concentrations which exceed the ITLs.

Table 5-9
Detected Concentrations in Soil, 2002 Environmental Field Investigation Boeing Tract 1 South, UST Site #4

CONSTITUENT	UNITS	B42S1-6	B45S1D	B45S2-7	B45S2-7 DUP	B45S3-7	B45S4-7	B45S5D	B45S6-6	B45S7-7	B45S8-6	B45S9-6	B45S10-6	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
		6 ft bgs	- ft bgs	7 ft bgs	7 ft bgs	7 ft bgs	7 ft bgs	- ft bgs	6 ft bgs	7 ft bgs	6 ft bgs	6 ft bgs	6 ft bgs	
		11/20/02	11/18/02	11/19/02	11/18/02	11/18/02	11/18/02	11/19/02	11/18/02	11/18/02	11/19/02	11/18/02	11/20/02	
VOC/TPH Method OA-1														
Benzene	ug/kg	<2.5	NS	**601**	**549**	**242**	<50	NS	<50	<50	<50	<50	**62**	50
Toluene	ug/kg	<25	NS	**3,200**	**2,930**	**1,550**	<50	NS	<50	**67**	<50	<50	**952**	3,700
Xylenes, Total	ug/kg	<7.5	NS	**360**	**263**	**328**	<50	NS	<50	**113**	<50	<50	**513**	16,000
Gasoline (C6-C14)	ug/kg	NQ	NS	**186,000**	**163,000**	**206,000**	**12,000**	NS	<5,000	**68,000**	**21,000**	<5,000	**103,000**	--
TPH (GC/FID) Low Fraction	ug/kg	<500	NS	NQ	NQ	NQ	NQ	NS	NQ	NQ	NQ	NQ	NQ	--
TPH Method OA-2														
Diesel #1	ug/kg	NQ	NS	<5,000	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	<5,000	--
Diesel #2	ug/kg	NQ	NS	<5,000	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	<5,000	--
Kerosene	ug/kg	NQ	NS	<5,000	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	<5,000	--
Motor Oil (C16-C33)	ug/kg	NQ	NS	<5,000	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	<5,000	--
Stoddard Solvent	ug/kg	NQ	NS	<5,000	<5,000	<5,000	<5,000	NS	<5,000	<5,000	<5,000	<5,000	<,5000	--
TPH Method DRO														
TPH (GC/FID) High Fraction	ug/kg	<4,000	NS	NQ	NQ	NQ	NQ	NS	NQ	NQ	NQ	NQ	NQ	--
Total TPH (Low & High Range Fractions)	ug/kg	<500	NS	**186,000**	**163,000**	**206,000**	**12,000**	NS	<5,000	**68,000**	**21,000**	<5,000	**103,000**	200,000 (2)

Notes:

ug/kg - micrograms per kilogram
< - Constituent was not detected above noted quantitation limit.
ft bgs - feet below ground surface
NS - Not sampled
NQ - Constituent not quantified by that method.
-- - ITL has not been determined for this constituent.
(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.
(2) - Total TPH
Shaded values indicate constituent concentrations which exceed the ITLs.

Table 5-10
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation Boeing Tract 1 South, UST Site #4

CONSTITUENT	UNITS	B42S1W	B45S1DW	B45S2W	B45S3W	B45S4W	B45S4W DUP	B45S5DW	B45S6W	B45S7W	B45S8W	B45S9W	B45S10W	MW-A22	MW-A27	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
		11/20/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/19/02	11/18/02	11/19/02	11/19/02	11/19/02	11/19/02	11/01/02	11/01/02	
VOC/TPH Method OA-1																
Benzene	ug/l	<0.5	<5	**29.4**	**23.5**	<5	<5	<5	<5	**6.7**	<5	<5	<5	**2**	<0.5	5
Ethylbenzene	ug/l	<0.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	**2.8**	<0.5	700
Toluene	ug/l	<5	<5	**54.8**	**18.6**	<5	<5	<5	<5	**10.1**	<5	<5	**11.6**	<5	<5	150
Xylenes, Total	ug/l	<1.5	<5	<5	<5	<5	<5	<5	<5	**8.4**	<5	<5	<5	**11**	<1.5	320
Gasoline (C6-C14)	ug/l	NQ	<1,000	**15,310**	**2,760**	<1,000	<1,000	<1,000	<1,000	**41,410**	**268,300**	**10,820**	**17,440**	NQ	NQ	--
TPH (GC/FID) Low Fraction	ug/l	<100	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	**1,700**	<100	--
TPH Method OA-2																
Diesel #1	ug/l	NQ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
Diesel #2	ug/l	NQ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
Kerosene	ug/l	NQ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
Motor Oil (C16-C33)	ug/l	NQ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<100	<100	--
Stoddard Solvent	ug/l	NQ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	--
#6 Fuel Oil (C10-C32)	ug/l	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	<100	<100	--
Diesel (C7-C26)	ug/l	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	<100	<100	--
Hydraulic Fluid (C12-C33)	ug/l	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	<100	<100	--
Kerosene (C9-C16)	ug/l	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	<100	<100	--
Mineral Spirits (C7-C14)	ug/l	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	<100	<100	--
TPH Misc. (C10-C40)	ug/l	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	**840**	**1,300**	--
TPH Method DRO																
TPH (GC/FID) High Fraction	ug/l	<100	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	NQ	--
Total TPH (Low & High Range Fractions)	ug/l	<100	<1,000	**15,310**	**2,760**	<1,000	<1,000	<1,000	<1,000	**41,410**	**268,300**	**10,820**	**17,440**	**2,540**	**1,300**	10,000 (2)

Notes:

ug/l - micrograms per liter
< - Constituent was not detected above noted quantitation limit.
NQ - Constituent not quantified by that method.
-- - ITL has not been determined for this constituent.
(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.
(2) - Total TPH
Shaded values indicate constituent concentrations which exceed the ITLs.

Table 5-11
Detected Concentrations in Soil, 2002 Environmental Field Investigation Boeing Tract 1 South, Tank Farm and Paint/Solvent Storage Area By Building 41

CONSTITUENT	UNITS	B41E1D	B41E1-10	B41N1-8	B41S1-6	B41S1-6 DUP	B41S2-4	B41S3D-4	B41S4-6	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
		- ft bgs	10 ft bgs	8 ft bgs	6 ft bgs	6 ft bgs	4 ft bgs	4 ft bgs	6 ft bgs	
		11/12/02	11/12/02	11/08/02	11/07/02	11/07/02	11/07/02	11/07/02	11/13/02	
VOCs Method 8021										
1,2,4-Trimethylbenzene	ug/kg	NS	<1	<5	<5	<5	<5	**51**	<1	100,000
1,3,5-Trimethylbenzene	ug/kg	NS	<1	<5	<5	<5	<5	**192**	<1	21,000
Benzene	ug/kg	NS	<1	**186**	<5	<5	<5	**18**	<1	50
Ethylbenzene	ug/kg	NS	<1	<5	<5	<5	<5	**10**	<1	32,000
Isopropyl Benzene	ug/kg	NS	<1	**11**	<5	<5	<5	**29**	<1	160,000
M,P-Xylene	ug/kg	NS	<1	**21**	<5	<5	<5	**27**	<1	16,000
P-Isopropyltoluene	ug/kg	NS	<1	<5	<5	<5	<5	**116**	<1	67
Sec-Butylbenzene	ug/kg	NS	<1	**75**	<5	<5	<5	<5	<1	110,000
Toluene	ug/kg	NS	<1	<5	<5	<5	<5	**26**	<1	3,700
PAHs Method 8270C *										
Benzo(A)Pyrene	ug/kg	NS	**85**	<33	<33	NA	<33	<33	NA	62
TPH Method OA-2										
Diesel #1	ug/kg	NS	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	--
Diesel #2	ug/kg	NS	<5,000	<5,000	<5,000	<5,000	<5,000	**24,000**	<5,000	--
Total TPH (Low & High Range Fractions)	ug/kg	NS	<5,000	<5,000	<5,000	<5,000	<5,000	**24,000**	<5,000	200,000 (2)

Notes:

ug/kg - micrograms per kilogram

< - Constituent was not detected above noted quantitation limit.

ft bgs - feet below ground surface

NA - Constituents were not analyzed

NS - Not sampled

-- - ITL has not been determined for this constituent.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Shaded values indicate constituent concentrations which exceed the ITLs.

* - Samples B41S1-6 DUP and B41S4-6 were not analyzed for PAHs.

Table 5-12
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation Boeing Tract 1 South, Tank Farm and Paint/Solvent Storage Area By Building 41

CONSTITUENT	UNITS	B41E1DW	B41E1W	B41N1W	B41S1W	B41S2W	B41S3DW	B41S4W	MW-5	MW-7	MW-18	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
		11/13/02	11/12/02	11/08/02	11/07/02	11/07/02	11/11/02	11/13/02	11/01/02	11/01/02	11/14/02	
VOCs Method 8021												
1,1-Dichloroethane	ug/l	<1	<1	<5	<5	<5	<5	<1	**98 E**	<1	<1	4,000
1,1-Dichloroethene	ug/l	<1	<1	<5	<5	<5	<5	<1	**10**	<1	<1	7
1,2,4-Trimethylbenzene	ug/l	<1	<1	**13**	<5	<5	<5	<1	<1	<1	<1	12
Benzene	ug/l	<1	<1	**135**	<5	<5	<5	<1	<1	<1	<1	5
Cis-1,2-Dichloroethene	ug/l	<1	**1.2**	<5	<5	<5	**16**	<1	**6.4**	<1	<1	70
Isopropyl Benzene	ug/l	<1	<1	**24**	<5	<5	<5	<1	<1	<1	<1	--
M,P-Xylene	ug/l	<1	<1	**31**	<5	<5	<5	<1	NA	NA	<1	320
N-Propylbenzene	ug/l	<1	<1	**117**	<5	<5	<5	<1	<1	<1	<1	61
P-Isopropyltoluene	ug/l	<1	<1	**68**	<5	<5	<5	<1	<1	<1	<1	--
Sec-Butylbenzene	ug/l	<1	<1	**41**	<5	<5	<5	<1	<1	<1	<1	61
Tetrachloroethene	ug/l	<1	<1	<5	<5	<5	**125**	<1	**4.8**	<1	<1	5
Trichloroethene	ug/l	<1	**1.2**	<5	<5	<5	<5	<1	**2.4**	<1	<1	5
Vinyl Chloride	ug/l	<1	<1	<5	<5	<5	<5	<1	**7.4**	<1	<1	2
PAHs Method 8270C *												
	ug/l	<1	NA	<1	<1	<1	<2	NA	<1	<1	NA	
TPH Method OA-2												
Diesel #1	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	<1,000	--
Diesel #2	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	<1,000	--
Kerosene	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	<1,000	--
Motor Oil (C16-C33)	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	<1,000	--
Stoddard Solvent	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	NQ	NQ	<1,000	--
TPH Method DRO												
TPH (GC/FID) High Fraction	ug/l	NQ	NQ	NQ	NQ	NQ	NQ	NQ	**180**	<100	NQ	--
Total TPH (Low & High Range Fractions)	ug/l	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	**180**	<100	<1,000	10,000 (2)

Notes:

ug/l - micrograms per liter

< - Constituent was not detected above noted quantitation limit.

-- - ITL has not been determined for this constituent.

NA - Constituents were not analyzed

NQ - Constituent not quantified by that method.

E - Result is qualified, exceeded method calibration curve limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Shaded values indicate constituent concentrations which exceed the ITLs.

* - Samples B41E1W, B41S4W, and MW-18 were not analyzed for PAHs.

Table 5-13
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, Paint Accumulation Area West of Building 2

CONSTITUENT	UNITS	B2I1-8 8 ft bgs 11/8/02	B2W1-6 6 ft bgs 11/8/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021				
1,3,5-Trimethylbenzene	ug/kg	**66**	**36**	21,000
Benzene	ug/kg	<5	**21**	50
Chloroethane	ug/kg	<5	**6.7**	3,000
Ethylbenzene	ug/kg	**29**	<5	32,000
Isopropyl Benzene	ug/kg	**292**	**31**	160,000
N-Butylbenzene	ug/kg	**80**	**14**	140,000
N-Propylbenzene	ug/kg	<5	**30**	28,000
P-Isopropyltoluene	ug/kg	**268**	**36**	67
Sec-Butylbenzene	ug/kg	<5	**127**	110,000
Tert-Butylbenzene	ug/kg	**73**	**35**	130,000
Xylene, Total	ug/kg	**43**	**53**	16,000
TPH Method OA-2				
Diesel #1	ug/kg	NA	<5,000	--
Diesel #2	ug/kg	NA	**47,000**	--
Kerosene	ug/kg	NA	<5,000	--
Motor Oil (C16-C33)	ug/kg	NA	<5,000	--
Stoddard Solvent	ug/kg	NA	<5,000	--
Total TPH (High Range Fraction)	ug/kg	NA	**47,000**	200,000 (2)
PAHs Method 8270C				
	ug/kg	<33	<33	
RCRA Metals Method 6010B/7471				
Arsenic	ug/kg	**8,900**	**1,400**	11,000
Barium	ug/kg	**92,000**	**120,000**	1,700,000
Chromium	ug/kg	**18,000**	**12,000**	38,000
Lead	ug/kg	**10,000**	**6,800**	260,000

Notes:

ug/kg - micrograms per kilogram

ft bgs - feet below ground surface

NA - Constituents were not analyzed

-- - ITL has not been determined for this constituent.

< - Constituent was not detected above noted quantitation limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-14
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, Paint Accumulation Area West of Building 2

CONSTITUENT	UNITS	B2I1W 11/8/02	B2W1W 11/8/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021				
Benzene	ug/l	<5	**6.3**	5
Chloroethane	ug/l	<5	**7.3**	4.6
Trichlorofluoromethane	ug/l	<5	**17**	1,300
Vinyl Chloride	ug/l	**5.6**	<5	2
PAHs Method 8270C				
	ug/l	<10	<1	
RCRA Metals Method 6010B/7471				
Barium	ug/l	**500**	**500**	2,000
Chromium	ug/l	**32 J**	**10 J**	100
Lead	ug/l	**13**	<5	15

Notes:

ug/l - micrograms per liter

J - Result is qualified as an estimated value.

< - Constituent was not detected above noted quantitation limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Shaded values indicate constituent concentrations which exceed the ITLs.

Table 5-15
Detected Concentrations in Soil, 2002 Environmental Field Investigation Boeing Tract 1 South, Along Industrial Sewer Line

CONSTITUENT	UNITS	B2N1-8 8 ft bgs 11/11/02	B2N2-8 8 ft bgs 11/12/02	B2N3-8 8 ft bgs 11/12/02	B2N4-6 6 ft bgs 11/13/02	B2N5-7 7 ft bgs 11/13/02	B44N1-9 9 ft bgs 11/8/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021								
Benzene	ug/kg	<5	<1	<1	<1	<1	**41**	50
M,P-Xylene	ug/kg	<5	<1	<1	<1	<1	**11**	16,000
N-Propylbenzene	ug/kg	<5	<1	<1	<1	<1	**13**	28,000
P-Isopropyltoluene	ug/kg	<5	<1	<1	<1	<1	**7.1**	67
Sec-Butylbenzene	ug/kg	<5	<1	<1	<1	<1	**7.2**	110,000
Tetrachloroethene	ug/kg	<5	<1	**1.9**	**1.4**	<1	<5	100
TPH Method OA-2								
Diesel #1	ug/kg	NA	NA	NA	NA	NA	<5,000	--
Diesel #2	ug/kg	NA	NA	NA	NA	NA	<5,000	--
Kerosene	ug/kg	NA	NA	NA	NA	NA	<5,000	--
Motor Oil (C16-C33)	ug/kg	NA	NA	NA	NA	NA	<5,000	--
Stoddard Solvent	ug/kg	NA	NA	NA	NA	NA	<5,000	--
Total TPH (High Range Fraction)	ug/kg	NA	NA	NA	NA	NA	<5,000	200,000 (2)
RCRA Metals Method 6010B/7471								
Arsenic	ug/kg	<500	**39,000**	**3,400**	NA	NA	**2,000**	11,000
Barium	ug/kg	**63,000**	**74,000**	**83,000**	NA	NA	**110,000**	1,700,000
Chromium	ug/kg	**6,900**	**7,900**	**13,000**	NA	NA	**13,000**	38,000
Lead	ug/kg	**4,800 J**	**5,900**	**8,100**	NA	NA	**10,000**	260,000
Mercury	ug/kg	<20	<20	**30 J**	NA	NA	**94 J**	600

Notes:

ug/kg - micrograms per kilogram

ft bgs - feet below ground surface

< - Constituent was not detected above noted quantitation limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Shaded values indicate constituent concentrations which exceed the ITLs.

NA - Constituents were not analyzed

-- - ITL has not been determined for this constituent.

J - Result is qualified as an estimated value.

Table 5-16
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation Boeing Tract 1 South, Along Industrial Sewer Line

CONSTITUENT	UNITS	B2N1W 11/11/02	B2N2W 11/12/02	B2N3W 11/12/02	B2N3W DUP 11/12/02	B2N4W 11/13/02	B2N5W 11/13/02	B44N1W 11/8/02	B44N1W DUP 11/8/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOCs Method 8021										
Cis-1,2-Dichloroethene	ug/l	<5	<1	**45**	**39**	**19**	<1	<5	<5	70
Tetrachloroethene	ug/l	<5	<1	**23**	**21**	**13**	<1	<5	<5	5
Trans-1,2-Dichloroethene	ug/l	<5	<1	**12**	**12**	**1.7**	<1	<5	<5	100
Trichloroethene	ug/l	<5	<1	**11**	**10**	**2.5**	<1	<5	<5	5
TPH Method OA-2										
Diesel #1	ug/l	NA	NA	NA	NA	NA	NA	<1,000	<1,000	--
Diesel #2	ug/l	NA	NA	NA	NA	NA	NA	<1,000	<1,000	--
Kerosene	ug/l	NA	NA	NA	NA	NA	NA	<1,000	<1,000	--
Motor Oil (C16-C33)	ug/l	NA	NA	NA	NA	NA	NA	<1,000	<1,000	--
Stoddard Solvent	ug/l	NA	NA	NA	NA	NA	NA	<1,000	<1,000	--
Total TPH (High Range Fraction)	ug/l	NA	NA	NA	NA	NA	NA	<1,000	<1,000	10,000 (2)
RCRA Metals Method 6010B/7471										
Arsenic	ug/l	<10	**34**	**98**	NA	**26**	<10	**100**	NA	50
Barium	ug/l	**1,300**	**600**	**10,000**	NA	**8,500**	**530**	**960**	NA	2,000
Chromium	ug/l	**40**	**42**	**320**	NA	**59**	**11**	**64 J**	NA	100
Lead	ug/l	**79 J**	**39**	**110**	NA	**25**	**5.9**	**110**	NA	15
Mercury	ug/l	**0.33**	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	2

Notes:

ug/l - micrograms per liter

< - Constituent was not detected above noted quantitation limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Shaded values indicate constituent concentrations which exceed the ITLs.

NA - Constituents were not analyzed

J - Result is qualified as an estimated value.

Table 5-17
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, UST Area Between Buildings 4 and 5

CONSTITUENT	UNITS	B4E1-14 14 ft bgs 11/21/02	B4E2D-10 10 ft bgs 11/22/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOC/TPH Method OA-1				
Benzene	ug/kg	<2.5	<2.5	50
Ethylbenzene	ug/kg	<2.5	<2.5	32,000
Methyl Tert-Butyl Ether	ug/kg	NA	<25	67
Toluene	ug/kg	<25	<25	3,700
Xylenes, Total	ug/kg	**9.4**	<7.5	16,000
TPH (GC/FID) Low Fraction	ug/kg	NA	<500	--
TPH Method DRO				
TPH (GC/FID) High Fraction	ug/kg	**47,000**	**55,000**	--
Total TPH (Low & High Range Fractions)	ug/kg	**47,000**	**55,000**	200,000 (2)

Notes:

ug/kg - micrograms per kilogram

NA - Constituents were not analyzed

ft bgs - feet below ground surface

< - Constituent was not detected above noted quantitation limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-18
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, UST Area Between Buildings 4 and 5

CONSTITUENT	UNITS	B4E1W 11/21/02	B4E2DW 11/22/02	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
VOC/TPH Method OA-1				
Benzene	ug/l	<0.5	<0.5	5
Ethylbenzene	ug/l	<0.5	<0.5	700
Methyl Tert-Butyl Ether	ug/l	NA	<5	20
Toluene	ug/l	<5	<5	150
Xylenes, Total	ug/l	<1.5	<1.5	320
TPH (GC/FID) Low Fraction	ug/l	NA	<100	--
TPH Method DRO				
TPH (GC/FID) High Fraction	ug/l	**3,500**	<100	--
Total TPH (Low & High Range Fractions)	ug/l	**3,500**	<100	10,000 (2)

Notes:

ug/l - micrograms per liter

NA - Constituents were not analyzed

< - Constituent was not detected above noted quantitation limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

(2) - Total TPH

Table 5-19
Detected Concentrations in Soil, 2002 Environmental Field Investigation
Boeing Tract 1 South, Shooting Range Bunkers

CONSTITUENT	UNITS	B13E1-6	B13E2-6	B13E3-6	B13E3-6 DUP	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
		6 ft bgs	6 ft bgs	6 ft bgs	6 ft bgs	
		11/21/02	11/21/02	11/21/02	11/21/02	
RCRA Metals Method 6010B/7471						
Arsenic	ug/kg	**2,400**	<500	**2,900**	**4,000**	11,000
Barium	ug/kg	**120,000**	**92,000**	**130,000 B**	**130,000 B**	1,700,000
Cadmium	ug/kg	**480**	<250	<250	**350**	11,000
Chromium	ug/kg	**10,000**	**9,300**	**7,900 B**	**12,000 J**	38,000
Lead	ug/kg	**9,800**	**5,000**	**14,000**	**8,900**	260,000
Mercury	ug/kg	**22**	**24**	**22**	**34**	600
Selenium	ug/kg	<500	<500	**2,000**	**3,200**	4,300
Silver	ug/kg	**260**	<250	<250	<250	26,000

Notes:

ug/kg - micrograms per kilogram

ft bgs - feet below ground surface

< - Constituent was not detected above noted quantitation limit.

B - Result qualified due to constituent was detected in the method blank.

J - Result is qualified as an estimated value.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Table 5-20
Detected Concentrations in Groundwater, 2002 Environmental Field Investigation
Boeing Tract 1 South, Shooting Range Bunkers

CONSTITUENT	UNITS	B13E1W	B13E2W	B13E3W	INVESTIGATION THRESHOLD LEVEL (ITL) (1)
		11/21/02	11/21/02	11/21/02	
RCRA Metals Method 6010B/7471					
Arsenic	ug/l	**17**	**55**	**62**	50
Barium	ug/l	**370**	**520**	**520**	2,000
Lead	ug/l	**9.2**	**23**	**21**	15
Silver	ug/l	**6.6**	<5	<5	100

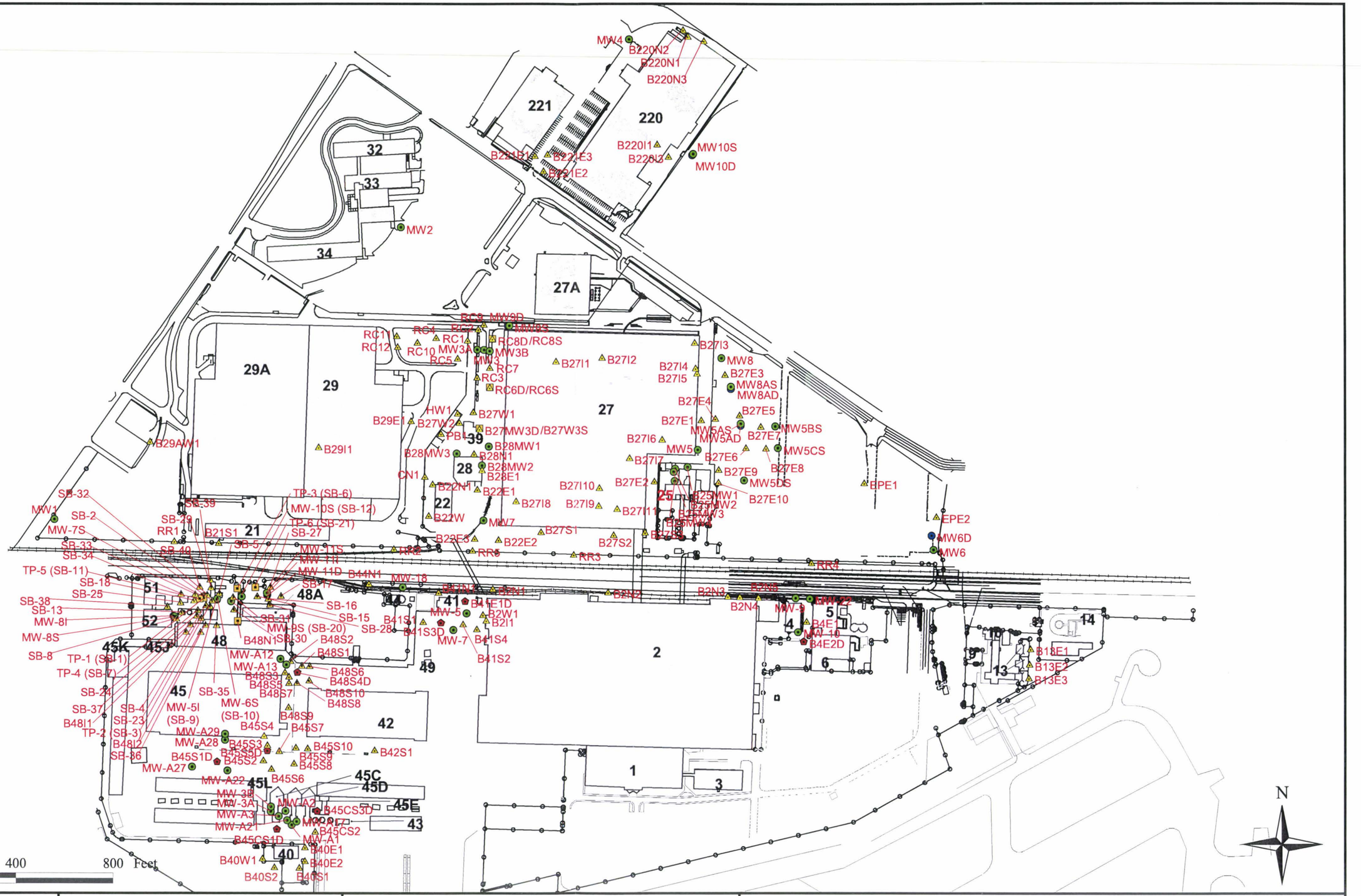
Notes:

ug/l - micrograms per liter

< - Constituent was not detected above noted quantitation limit.

(1) - Environmental Field Investigaion Statement of Work for Boeing Tract 1 South Property, Hazelwood, Missouri Facility, September 27, 2002, Harding ESE, Inc.

Shaded values indicate constituent concentrations which exceed the ITLs.



Legend

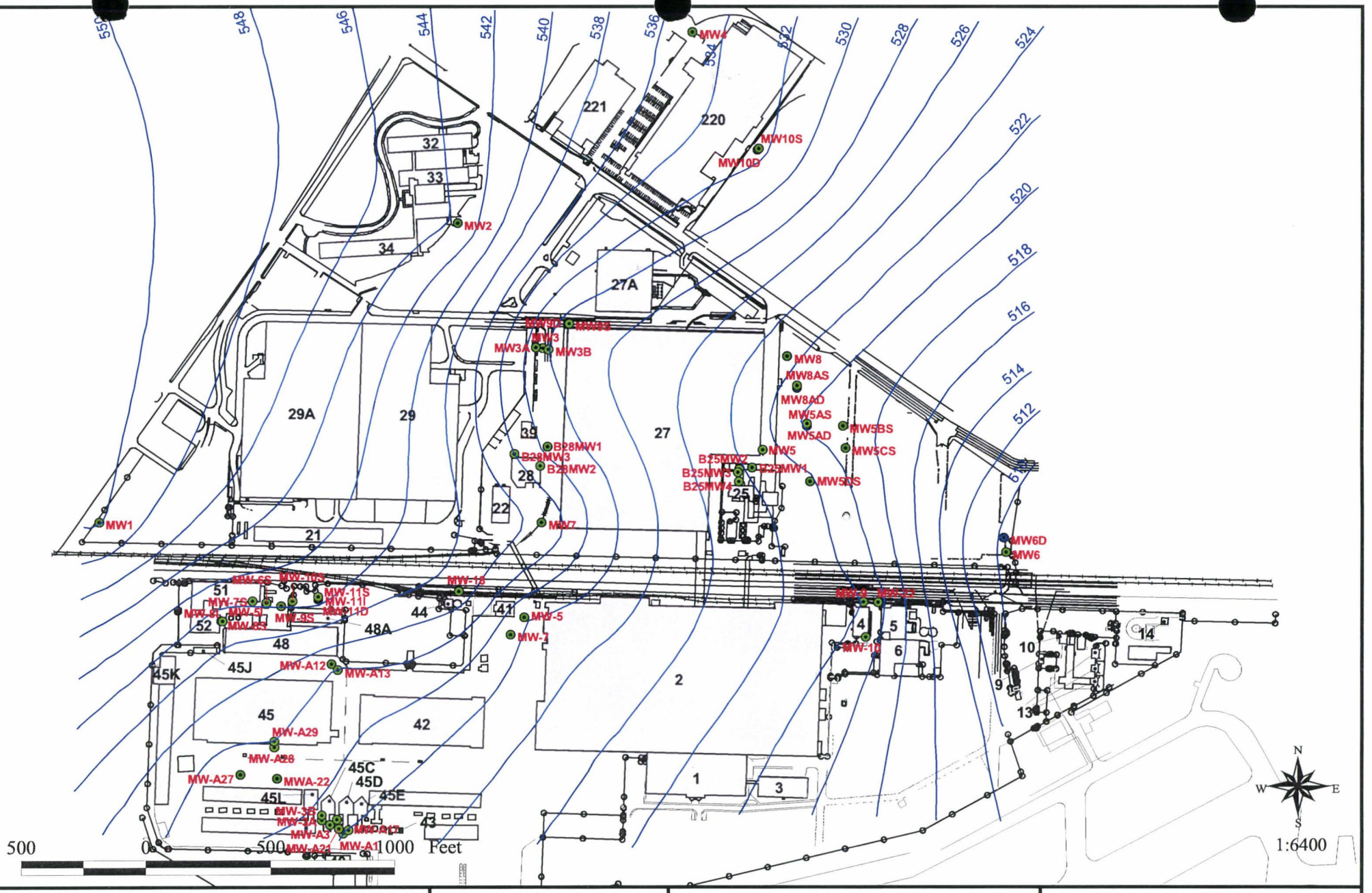
- Boring
- Deep Boring
- Piezometer
- Shallow Well
- Intermediate Well
- Deep Well

Note:
EPE 1 and EPE2 analyzed for radioactivity only.

RR1, RR2, RR3, RR4, B27I3, B27I4
groundwater samples not collected.

MACTEC, Inc.

Figure 1:
Soil Boring, Temporary Piezometer, and Monitoring Well Locations
Boeing Tract 1 (North & South)



Legend

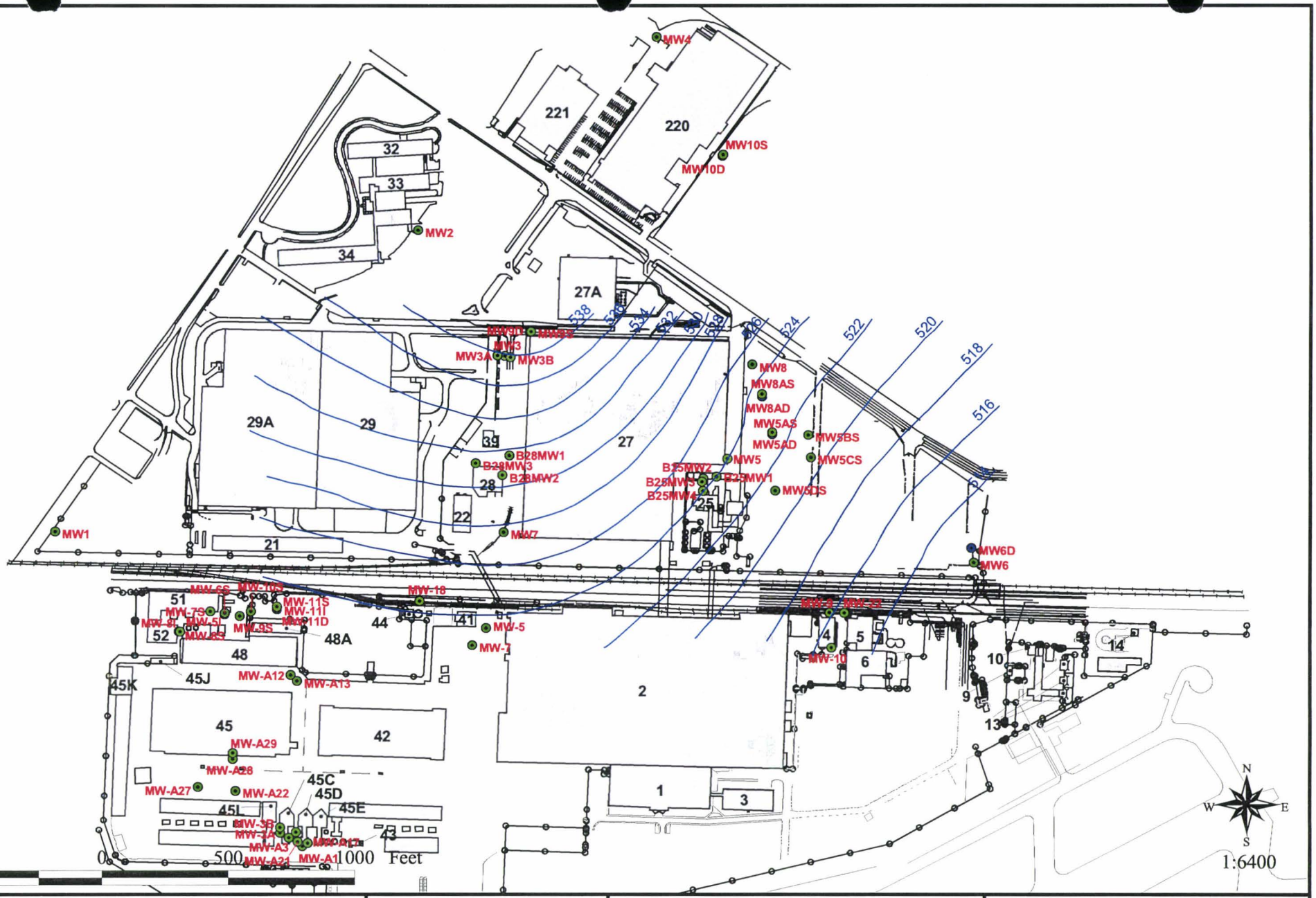
- Shallow Well
- Intermediate Well
- Deep Well
- Groundwater Contour

Note:
EPE 1 and EPE2 analyzed for radioactivity only.

RR1, RR2, RR3, RR4, B27I3, B27I4 groundwater samples not collected.

MACTEC, Inc.

Figure 2:
Shallow Groundwater Contours and Monitoring Well Locations
Fourth Quarter 2002
Boeing Tract 1 (North & South)



Legend

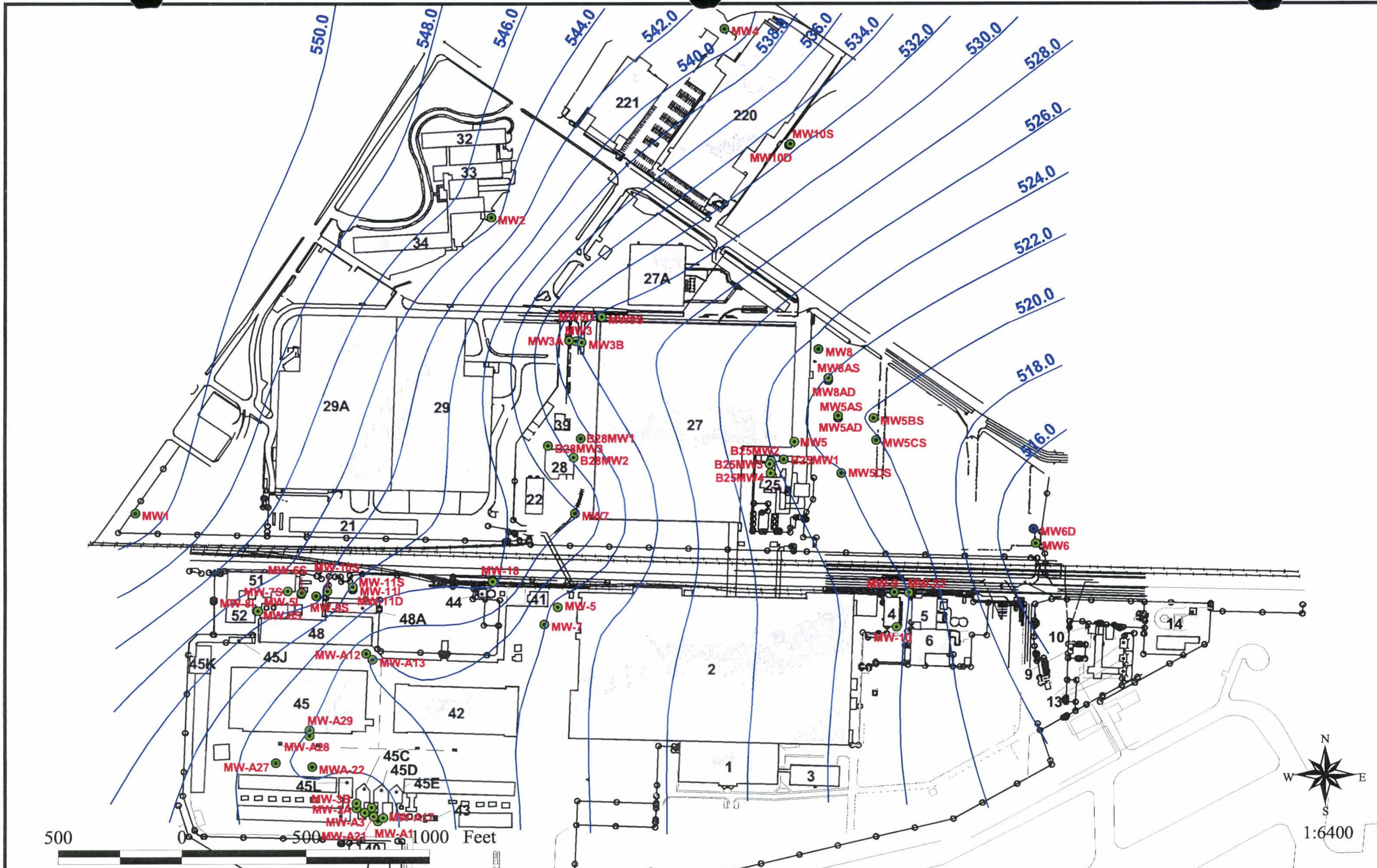
- Shallow Well
- Intermediate Well
- Deep Well
- Groundwater Contour

Note:
EPE 1 and EPE2 analyzed for radioactivity only.

RR1, RR2, RR3, RR4, B27I3, B27I4 groundwater samples not collected.

MACTEC, Inc.

Figure 3:
Deep Groundwater Contours and Monitoring Well Locations
Fourth Quarter 2002
Boeing Tract 1 (North & South)



Legend

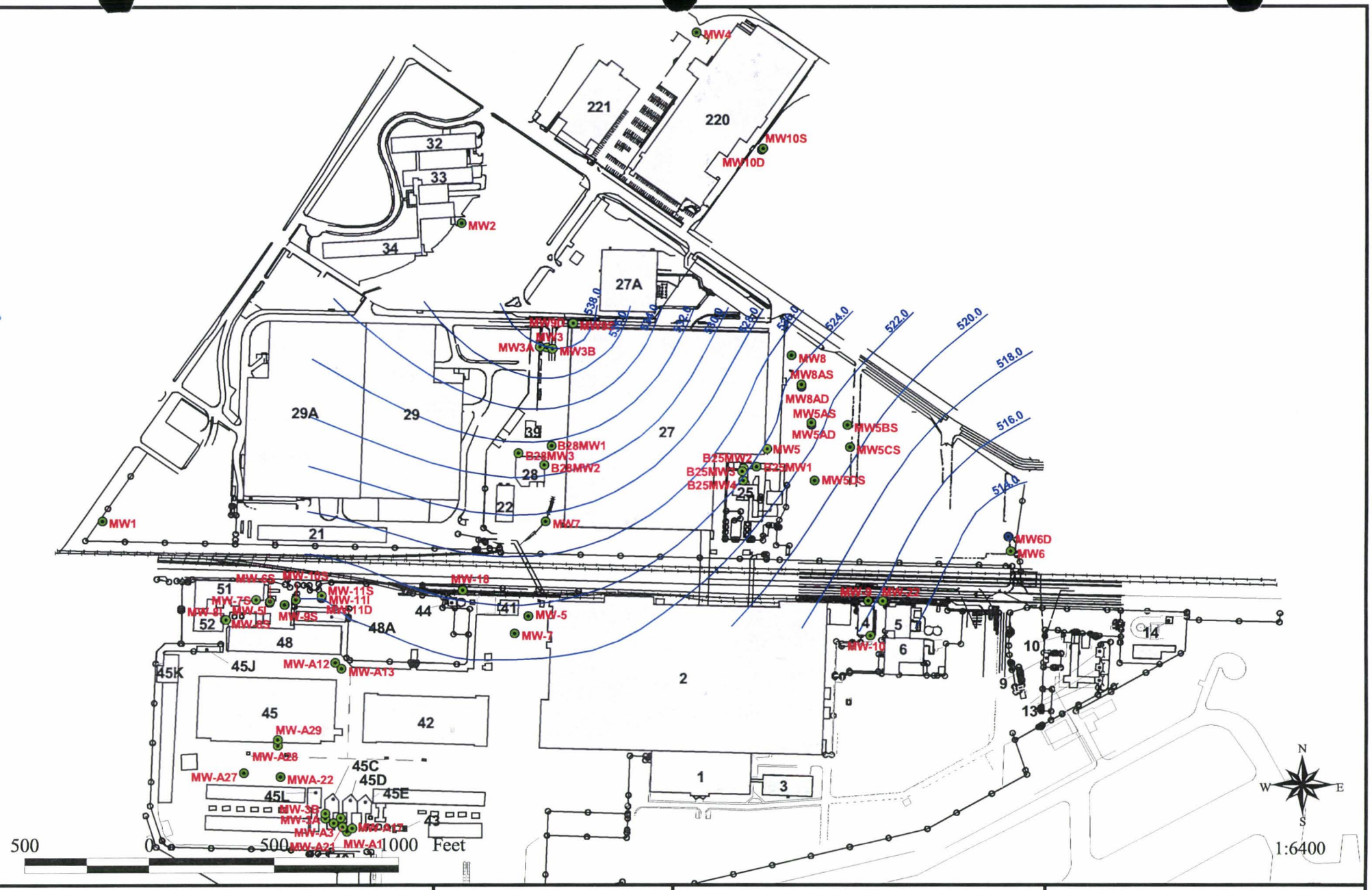
- Shallow Well
- Intermediate Well
- Deep Well
- Groundwater Contour

Note:
EPE 1 and EPE2 analyzed for radioactivity only.

RR1, RR2, RR3, RR4, B27I3, B27I4 groundwater samples not collected.

MACTEC, Inc.

Figure 4:
Shallow Groundwater Contours and Monitoring Well Locations
First Quarter 2003
Boeing Tract 1 (North & South)



Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Groundwater Contour

Note:
EPE 1 and EPE2 analyzed for radioactivity only.

RR1, RR2, RR3, RR4, B27I3, B27I4 groundwater samples not collected.

MACTEC, Inc.

Figure 5:
Deep Groundwater Contours and Monitoring Well Locations
First Quarter 2003
Boeing Tract 1 (North & South)

52

45J

48

B48I1

B48I2

MW-A12

(ND)

200000

B48S2

MW-A13

B48S1 (297000)

B48S6 (ND)

(83000) B48S3

B48S4D (NS)

(66000) B48S5

B48S10 (38000)

B48S7 (38000)

B48S8 (ND)

45

B48S9 (38000)

42

MW-A29

(12000) B45S4

10000

MW-A28

200000

(206000) B45S3

B45S9 (ND)

B45S10 (103000)

Fuel Pit # 4

Fuel Pit # 3

B45S5D (NS)

(68000) B45S7

Fuel Pit # 2

Fuel Pit # 1

B42S1 (ND)

B45S1D (NS)

B45S2 (186000)

B45S8 (21000)

MW-A27

B45S6 (ND)

MW-A22

N

100 0 100 200 Feet

45L

1:900

Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Boring
- Deep Boring
- Piezometer
- Proposed Boring
- TPH Isoconcentration Line (micro-g/L)
- Water Line (Fire)
- Jet Fuel Hydrant Line
- Storm Water Line
- Identification Number (TPH Concentration micro-g/L)
- NS = Not Sampled
- ND = Not Detected

MACTEC, Inc.

Figure 8:
TPH in Soil
Isoconcentration Map
for UST Site #2 and UST Site #4
Jet Fuel Hydrant Line Area
Boeing Tract 1 South

52

45J

48

B48I1

B48I2

MW-A12

(1160)

B48S2

(ND)

B48S1

(5500) MW-A13

B48S6 (ND)

(1746) B48S3

B48S4D (NS)

(301200) B48S5

B48S10

(180)

(207200)

B48S7

B48S8

(ND)

1000

200000

45

B48S9

(1000)

42

MW-A29 (NS)

B45S4

(ND)

MW-A28 (NS)

B45S3 (2760)

(10820)

B45S9

B45S10

(17440)

Fuel Pit # 4

Fuel Pit # 3

B45S5D

(NS)

(41410)

Fuel Pit # 2

Fuel Pit # 1

B42S1

(ND)

B45S7 200000

B45S1D

(NS)

B45S2

(15310)

B45S8

(268300)

10000

MW-A27

(1300)

MW-A22

(2540)

B45S6

(ND)

N

100 0 100 200 Feet

45L

1:900

Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Boring
- Deep Boring
- Piezometer
- Proposed Boring
- TPH Isoconcentration Line (micro-g/L)
- Water Line (Fire)
- Jet Fuel Hydrant Line
- Storm Water Line
- Identification Number (TPH Concentration micro-g/L)
- NS = Not Sampled
- ND = Not Detected

MACTEC, Inc.

Figure 9:
TPH in Shallow Groundwater
Isoconcentration Map
for UST Site #2 and UST Site #4
Jet Fuel Hydrant Line Area
Boeing Tract 1 South

52

45J

48

B48I1

B48I2

MW-A12

(ND) B48S2

(307) B48S1

MW-A13

B48S6 (ND)

(98) B48S3

B48S4D (NS)

(57) B48S5

B48S10 (ND)

(ND) B48S7

B48S8 (125)

45

B48S9 (ND)

42

MW-A29

MW-A28

B45S4 (ND)

B45S3 (242)

B45S9 (ND)

B45S10 (62)

Fuel Pit # 4

Fuel Pit # 3

B45S5D (NS)

(ND) B45S7

Fuel Pit # 2

Fuel Pit # 1

B42S1 (ND)

(601)

B45S1D (NS)

B45S2

B45S8 (ND)

MW-A27

MW-A22

B45S6 (ND)

200

N

100 0 100 200 Feet

45L

1:900

Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Boring
- Deep Boring
- Piezometer
- Proposed Boring
- Benzene Isoconcentration Line (micro-g/L)
- Water Line (Fire)
- Jet Fuel Hydrant Line
- Storm Water Line
- Identification Number (Benzene Concentration micro-g/L)
- NS = Not Sampled
- ND = Not Detected

MACTEC, Inc.

Figure 10:
Benzene in Soil
Isoconcentration Map
for UST Site #2 and UST Site #4
Jet Fuel Hydrant Line Area
Boeing Tract 1 South

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52

45J

48

B48I1

B48I2

(NS) MW-A12

(921)

B48S2

(569)

B48S1

(44) MW-A13

500

B48S6 (ND)

(14.6) B48S3

B48S4D (NS)

(24.8) B48S5

B48S10 (ND)

B48S7

B48S8

(25.7 B)

20

(22.2 B)

1

45

B48S9 (0.61)

42

MW-A29 (NS)

MW-A28 (NS)

B45S4 (ND)

(23.5) B45S3

B45S5D (NS)

1

20

B45S9 (ND)

(6.7)

B45S7

B45S10 (ND)

Fuel Pit # 4

Fuel Pit # 3

Fuel Pit # 2

Fuel Pit # 1

B42S1 (ND)

B45S1D (NS)

B45S2 (29.4)

B45S8 (ND)

MW-A27 (ND)

MW-A22 (2)

B45S6 (ND)

N

100 0 100 200 Feet

45L

1:900

Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Boring
- Deep Boring
- Piezometer
- Proposed Boring
- Benzene Isoconcentration Line (micro-g/L)
- Water Line (Fire)
- Jet Fuel Hydrant Line
- Storm Water Line
- Identification Number (Benzene Concentration micro-g/L)
- NS = Not Sampled
- ND = Not Detected

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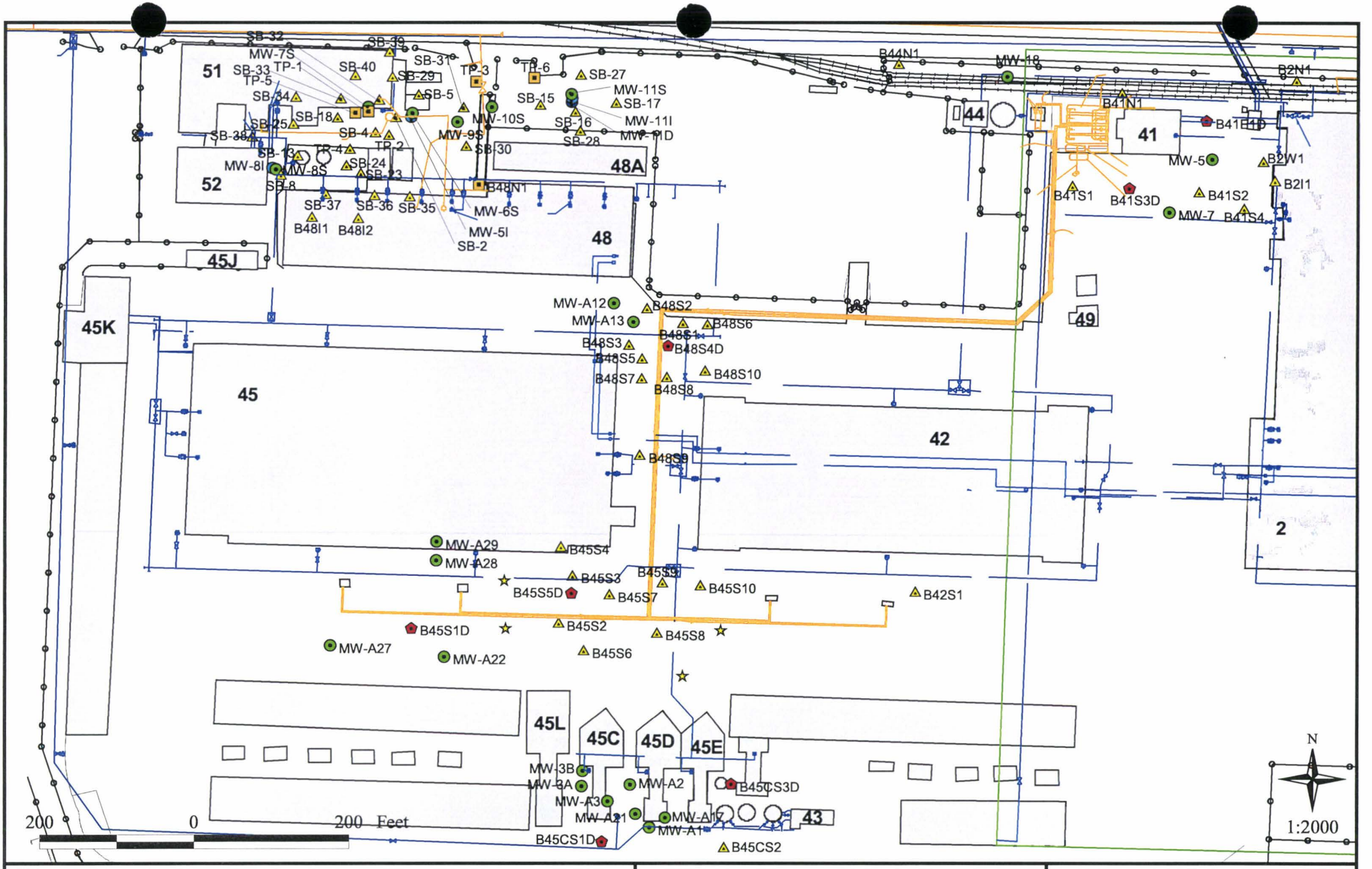
Figure 11:
Benzene in Shallow Groundwater
Isoconcentration Map
for UST Site #2 and UST Site #4
Jet Fuel Hydrant Line Area
Boeing Tract 1 South



Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Boring
- Deep Boring
- Piezometer
- Proposed Boring
- Water Line (Fire)
- Jet Fuel Hydrant Line
- Storm Water Line

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Figure 12:
Proposed Borings
Hydrant System
Boeing Tract 1 (North & South)

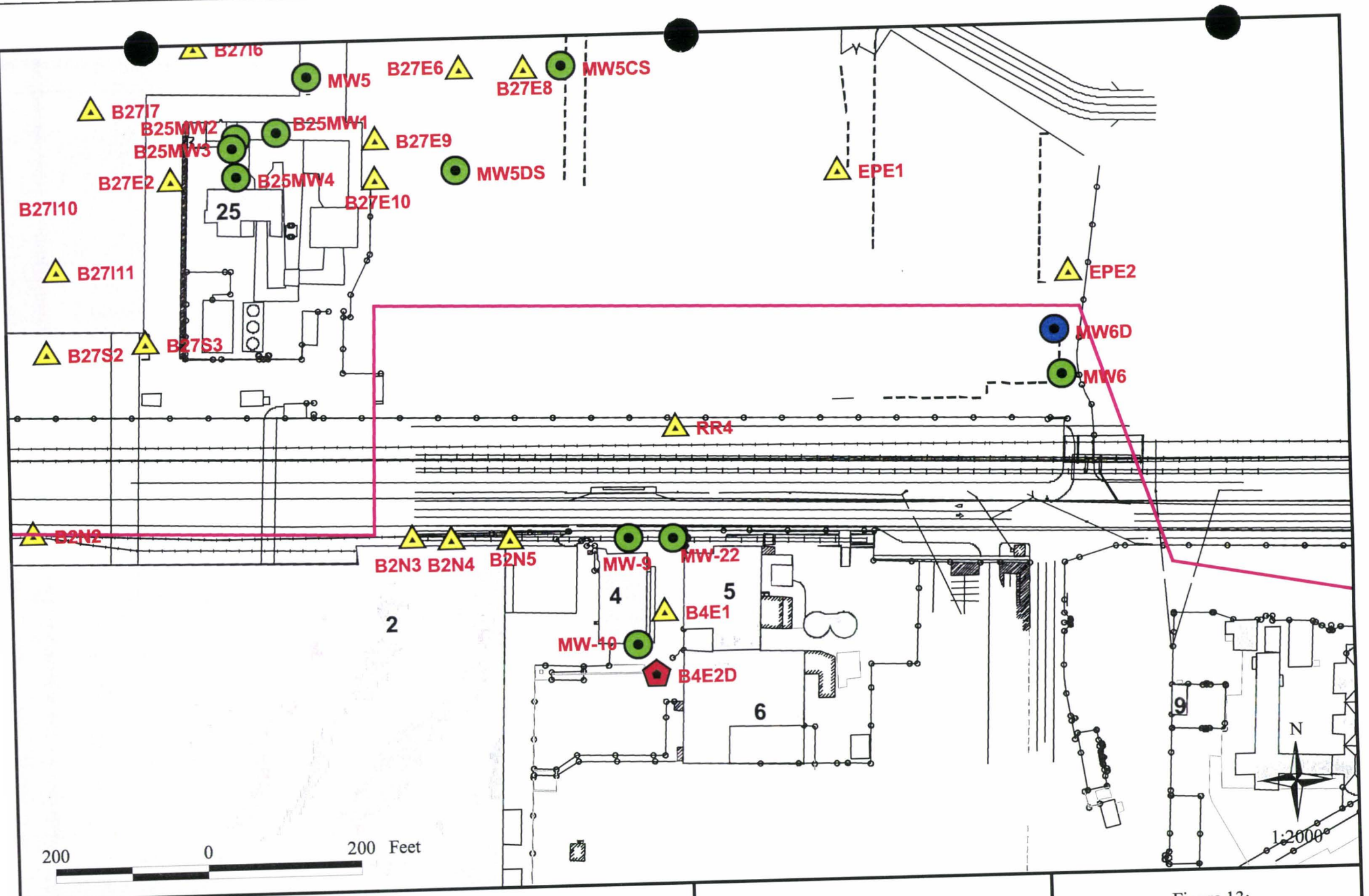

Figure 13:
Industrial Sewer Line
North of Building 2
Boeing Tract 1 (North & South)

Statement of Work
Supplemental Investigation to the Environmental Field Investigation for Boeing Tract 1 South Property

Per the comments prepared by the Missouri Department of Natural Resources to the Draft Environmental Field Investigation Report for the above referenced site, the following supplemental investigation activities will be performed. A discussion of the rational for these activities is included in Boeing's response letter dated April 24, 2003.

The supplemental work proposed will be conducted in accordance with the Environmental Field Investigation Statement of Work (SOW) dated September 27, 2002 and the Addendum to the SOW dated November 1, 2002. A deviation from this SOW is that the fixed laboratory will utilize Method OA-1 for total petroleum hydrocarbon (TPH) instead of the TPH DRO method. A summary of the laboratory methods follows:

A mobile laboratory will be used for on-site analysis of a majority of the soil and groundwater samples collected during the supplemental investigation. The samples will be analyzed by the mobile lab for TPH. The mobile lab will use the following analysis methods:

TPH	Method modified 8015
BTEX	Method 8020

Samples not analyzed by the on-site laboratory will be analyzed by a fixed lab (Environmental Science Corporation). Analytical methods used by the fixed lab will be:

TPH	Method OA-2
BTEX	Method OA-1

Jet Fuel Hydrant Line Area (UST Sites #2 and #4)
A total of four shallow soil borings/temporary piezometers will be installed south of Building 45, as shown on Figure 11 from the response to comment letter. Soil and groundwater collected from these borings will be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and TPH. Additionally, monitoring well MW-A13 will be sampled for BTEX and TPH.

UST Site #3
Four existing monitoring wells MW-A3, MW-A21, and MW-A17 will be sampled for BTEX and TPH.

Following receipt of the laboratory results from this supplemental investigation, a report presenting the findings will be prepared and submitted to the MDNR.

Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Boring
- Deep Boring
- Piezometer
- Benzene
- Polychlorinated Biphenyl (PCB)
- Tetrachloroethene (PCE), Trichloroethene (TCE), and Breakdown Products
- Total Petroleum Hydrocarbon (TPH)

Note:
EPE1 and EPE2 analyzed for radioactivity only.

RR1, RR2, RR3, RR4, B27I3, B27I4 groundwater samples not collected.

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Figure 7:
Detections in Groundwater Above Investigative Threshold Levels
July 2000 - November 2002
Boeing Tract 1 (North & South)

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Legend

- Shallow Well
- Intermediate Well
- Deep Well
- Boring
- Deep Boring
- Piezometer

- Arsenic
- Benzene
- Chromium
- Tetrachloroethene (PCE), Trichloroethene (TCE), and Breakdown Products
- Total Petroleum Hydrocarbon (TPH)

Note:
EPE1 and EPE2 analyzed for radioactivity only.

RR1, RR2, RR3, RR4, B27I3, B27I4 groundwater samples not collected.

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Figure 6:
Detections in Soil Above Investigative Threshold Levels July 2000 - November 2002 Boeing Tract 1 (North & South)

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